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United States Depertment of Agriculture

Soil Conservetion Service

Montane Agriculturel Experiment Stetion

Bozeman, Montena

MONTANA WATER SUPPLY OUTLOOK

Snowpack and Streamflow Forecasts as of February 1, 1985 UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SNOW SURVEY UNIT

Federel Bidg., Rm. 443 10 Eest Bebcock Btreet Bozeman, MT 59715 OFFICIAL SUSINESS

PENALTY FOR PRIVATE USE, \$300

THIRD-CLASS BULK RATE POSTAGE AND FEES PAID USDA - SCS BDZEMAN MT PERMIT NO D-287



The Montana Water Supply Outlook is a publication of the U.S. Soil Conservation Service. The SCS administers the Cooperative Snow Survey Program in cooperation with other federal, state and private agencies, organizations, and individuals.

The report is prepared by SCS, Snow Survey and Water Supply Forecast Staff, Room 443, Federal Building, 10 East Babcock, Bozeman, Montana.

How cold was it?

The cold spell we experienced near the end of January was by far the coldest of the winter. Few areas in the state escaped the temperatures which dropped far below minus 20 degrees Fahrenheit.

Cold air drainage in the higher mountain valleys causes cold air to "puddle" in low areas and can produce some extremely low temperatures.

Locations such as the areas around Butte and West Yellowstone have become notorious for producing record lows for the nation.

On January 20, 1954, the coldest temperature ever recorded in the Continental United States, a minus 69.7 F, was recorded on Rogers Pass near Helena.

Within the SNOTEL reporting system there are several sites that we expect to record extremely low temperatures. Several have done just that. The coldest temperatures recorded this winter and the locations where they were measured are shown below.

Site	Area	Temp	Date
Calvert Creek	North of Wisdom	-41° F	2-4-85
Nevada Creek	South of Lin∞ln	-45 [°] F	1-30-85
Jasin Creek	South of Butte	-52 ^O F	2-4-85
Whiskey Creek	South of W.Yellowstone	-58 ⁰ F	1-31-85



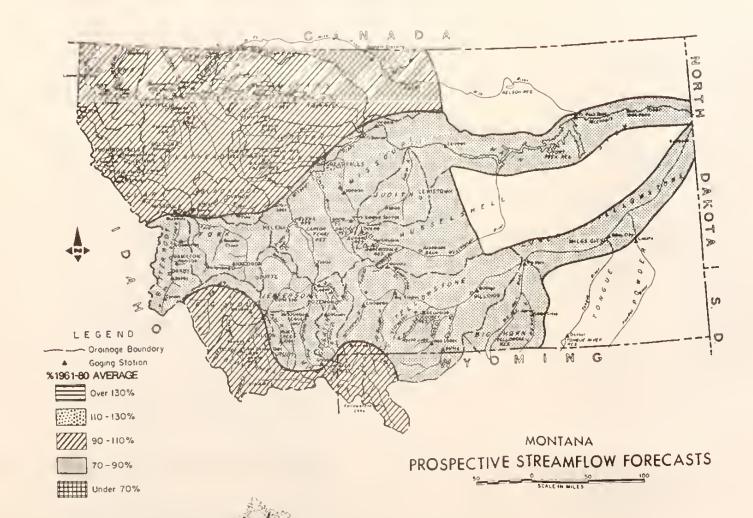
Low snowfall in January

January produced very little snowfall across Montana. The weather patterns that brought large amounts of snowfall to most areas in the state in late December have shifted to cold and dry weather.

In a normal year, about one-fourth of the season's snow accumulation is deposited during the month of January.

As a result, the snowpack percentages have dropped significantly. Presently, the northern half of the state has average or a little above average snowpack while most of the southern half is below average.

Generally, about two-thirds of the season's snowpack has accumulated by February 1. This means the weather patterns that develop over the next 2 to 3 months become very critical in determining the seasonal snowpack levels and the subsequent spring and summer runoffs.



Streamflow forecasts drop

As a result of deficient January snowfall, streamflow forecasts have dropped significantly since last month. Present predictions of spring and summer streamflow are in the near average range for the northern areas of the state and for some of the streams in the southwest. Much of the southern half of Montana can expect runoff 10 to 15 percent below average.

Missouri River & Hudson Bay Drainages

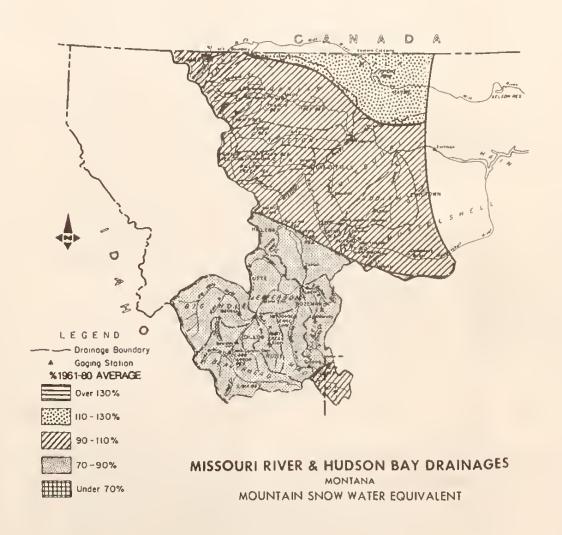
STREAMFLOW FORECASTS	THIS YEA	AR		RECORD	THIS YE	EAR	PAST	RECORD	
	FORECA	ST.	THOUSAND	ACRF FEET	+ OREC		THOUSAND	ACRE FEET	
BASIN, STREAM and/or FORECAST POINT	Thousand P	Average	Lection	A va-age	Thousand Acre Feer	Percent at Average	Lacren	Average	
PERIOD	A	PRIL -	SEPTEMB	E R		APRIL	- JULY		
FEO ROCK RIVER near monida (1)	440 735 440 22.9 35.7 484 2.290 19.4 565 120 3.540 250 133 86.5	94 96 94 90 91 83 87 81 80 80 79 90 89 99 90 89 101 102 100 97 102 93 93 94	244 435 575 1·114 3·827 336	103 158 209 101 760 20.0 496 848 545 28.6 44.8 611 2.545 21.8 570 134 3.980 248 130 86.7 114 542 4.570 4.980	88.8 130 168 75.0 635 15.0 345 595 370 19.2 30.5 415 2,000 16.8 520 112 3,120 239 115 75 0 105 525 3,700 3,95 3,700 10,800 1	93 95 93 89 91 84 89 89 80 78 79 79 91 88 100 91 90 102 102 102 100 97 101 92 90 89	212 337 440 874 3•179 296	96.3 137 180 84.6 698 17.8 388 672 464 24.7 38.7 523 2.1.96 19.0 522 123 3.468 235 113 74.7 108 518 4.030 4.383 5.4 58.9 4.428	(1) Adjusted for storage in Lima Reservoir. (2) Adjuated for storage in Lima and Clark Canyon Reservoirs. (3) Adjusted for storage in Hebgen Lake (4) Adjusted for storage in Hebgen Lake and Ennis Lake. (5) Sum of West Fork Hyalite Creek and East Fork Hyalite Creek above the Reservoir. (6) Adjusted for storage in Middle Creek Reservoir. (7) Adjusted for storage in Lima, Hebgen, Ennis & Clark Canyon Reservoirs (8) Adjusted for storage in Gibson Reservoir & diversions. (9) Adjusted for storage in Lima, Clark Canyon, Hebgen, Ennis, Gibson, Pishkun, Willow Creek & Canyon Ferry Reservoirs. (10) Adjusted for storage in Two Medicine Reservoir & diversions in Two Medicine Canal. (11) Adjusted for all upstream reservoirs. (12) Flow at Eastern Crossing minus St. Mary's Canal. (13) Adjusted for storage in Lake Sherburne.
MILK RIVER at Eastern Crossing (Mar-Sept.) MJLK RIVER at Eastern Crossing (12) (Mar-Sept.)		112 108 90		109 279 12•755	10.890	80		12:239	WITH THE NATIONAL WEATHER SERVICE
SASKATCHEHAN RIVER BASIN									
SHIFTCURRENT CREEK at Sherburne (13)		102 101	102	128 487	113 415	101	87.4	112 416	

	Flo= P	eriod
STREAM or AREA	Spring Season	Late Season
Beaverhead	Avg	Avg
Ruby	Avg	Fair
Big Hole	Avg	Avg
Boulder	Avg	Fair
Jefferson	Avg	Fair
Madison	Avg	Avg
Gallatin	Avg	Fair
West-Side Missouri	Avg	Fair
Smith-8elt	Avg	Fair
Sun	Avg	Avg
Teton	Avg	Avg
Marias	Avg	Avg
Judith	Avg	Fair
Musselshell	Avg	Fair
Milk	Avg	Avg
Bear Paws	Avg	Avg
St. Mary's	Avg	Avg

Missouri forecasts revised downward

All forecasts have been revised downward because of deficient January precipitation.

Current predictions of spring and summer streamflows are for 10 to 15 percent below average runoff on most tributaries in the Missouri River headwaters. Tributaries east of the Missouri River are also forecast to be below average. Most streams on the west side downstream from Canyon Ferry Reservoir should have near average streamflows.



SUMMARY OF SNOW MEASUREMENTS Number of Courtee WATER AS PERCENT OF Latt Year Average T SUB-WATERSHED Beaverhead Ruby 4 Big Hole 12 Boulder 12 Jefferson 42 Madison 15 Gallatin 15 87 111 89 106 102 Gallatin Missouri Headwater 72 100 West-side Missouri 142 90 (Toston-Cacade) Smith-Belt-Arrow 116 91 91 128 Missouri Main-stem 13 Teton & Sun 208 Marias Marias-Teton-Sun 97 166 98 175 Judith-Musselshell 7 128 91 116 182 Milk 10 Bear Paws 138 133 Missouri (Total) 110 186 106 Bow River in 110 90 Alberta

January snowfall below average

There was a major turnaround in snowfall during January. Mountain precipitation was very light across the entire drainage with monthly increases of about $\frac{1}{2}$ to 1 inch. Normally, 3 to 7 inches of moisture can be expected.

The present snowpack is now below average in most of the headwater areas except for a small part of the Madison River headwaters in Yellowstone National Park. Most of the Missouri main-stem streams are near average.

A month ago, this area was well above average due to large December storms. The jet stream that helped bring in this moisture and mild temperatures in December was flowing west to east across Montana. More recently, it has been traveling from northwest to southeast and bringing cold temperatures with very little

With these drastic changes in our weather patterns, it becomes very difficult to project how much snowpack will be accumulated this season. As time goes on, hopefully, the patterns will become a little more stable.

3110	W 21	<u>JRV</u>	/E)	Y D	AT/	4	SNOW COURSE	ELEVATION	OATE	5NOW 0EPTH	WATER CONTENT	LAST YEAR	AVERAG 1961-8
	Fi	EBRUARY 19	85				MOISY BASIM MOISY BASIM BUTYL	6040 6040	1/30/85 2/01/85	95	32.0 28.0	28.3 25.1	28.7
							NORTH FORK ELF CREEK N.FORK ELF CRE BUTT		1/28/85 2/01/85	30	7.6 7.6	4.8 5.2	9 i (
NOU COUPSE	ELEVATION	OATE	5NOW DEPTH	CONTENT	LAST YEAR	AVERAGE 1961-80	NORTH FORK JOCKO NORTHEAST ENTRANCE	6330 7350	2/05/85 2/01/85	75 22	25.5 1.4	24.4	29+1 7+2
							N.E. ENTRANCE BUTYL OPHIR PARK	7350 7150	2/01/85 2/02/85	36	5.2 10.2	4.6 9.2	6.8
NA							PETERSON MEADOUS PETERSON MOW BUTYL	7200 7200	2/06/85 2/06/85	30	6.8	4.6	7.0
CH FALLS HLEY DIVIOE	7350 4820	1/28/85 2/01/85	27 26	6.5 5.9	7.2 3.1	8.6 5.6	PICKFOOT CRK METAL PIKE CREEK BUTYL	66 50 5930	2/01/85 2/01/85		7.4	5.3 10.9	7.7
LEY LAKE GER PASS	4000	2/01/85 1/26/85	22	4.0 27.0	2.2	5.0 28.0	PIPESTONE PASS PLACER BASIN METAL	720 0 8830	1/28/85 2/01/85	16	3.3	1.8	3.8
GER PASS BUTYL	6900	2/01/85		19.5	14.0	25.9 17.3	POORMAN CREEK POORMAN CRK BUTYL	5100	1/30/85	78	10.5	9,9 15,3	23+9
VFIELD MOUNTAIN VFIELD MIN BUTYL	5600 5600	1/30/85 2/01/85	43	14.4	6.8 7.2	13.1	PORCUPINE BUTTL REO TOP	5100 6500	2/01/85 2/01/85		27.3	12.8 4.1	22±0 4±8
PRER LAKES BUTYL ISIN CREEK	8250 7180	2/01/85 1/29/85	27	9.7 6.3	7.0	10.7	FOCKER PEAK BUTYL	5260 8000	2/05/85 2/01/85	60	23.9 8.5	11.4 5.4	20.2
ASIM CREEK METAL AGLE SPGS METAL	7180 8850	2/01/85 2/01/85		5.0 5.6	2.1 5.5	4.6 5.0	ROCKY BOY BOCKY BOY BUTYL	4700 4700	1/29/85 1/29/85	21	9.4	2.8 3.8	3 i 6
CAP PAW SKI AREA	5200 7700	1/29/85 2/05/85	28 42	8.2 10.2	5.0 9.4	5.3 10.2	SAOOLE MOUNTAIN SAOOLE MTM BUTYL	7940 7900	1/30/85 2/01/85	19	15.0 14.9	14.4 14.5	17+9 17+7
ACK BEAR BUTYL ACK PINE	7950 7100	2/01/85 1/30/85	27	23.0	22.2 5.1	24:1 9:7	SHOWER FALLS SHOWER FALLS BUTYL	8100 8100	1/28/85 2/01/85	37	11.1 11.5	15.2 15.1	16.3 15.3
ACK PINE BUTYL OOOY DICK BUTYL	7100 7550	2/01/85 2/01/85		6.5 7.7	5.9 4.7	10.0 8.3	SILVER RUN BUTYL SKALKAHO SUMMIT BTYL	6630 7260	2/01/85 2/01/85		2.3 13.7	3.6 10.3	3.0 18.5
UE LAKE DULOER HIN BUTYL	5900 7950	1/26/85 2/01/85	50	17.0 12.4	11:0 13:1	17.9 13.7	SKYLAPK TRAIL METAL S.FK. SHIELDS BUTYL	6200 8100	2/01/85 2/01/85		19.9 8.5	17.2	19.8
DX CANYON METAL	6700	2/01/85		6:2	16.0	7.6 19.0	SPOTTED BEAR MIN. 5PUR PARK BUTYL	7000 8100	2/04/85 2/01/85	37	12.5 13.6	7 - 2 11 - 9	11.2
RIOGER BOWL RIOGER BOWL BUTYL	7250 7250	1/29/85	55	10.8	13.7	17.2	STAHL PEAK STAHL PEAK BUTYL	6030	1/30/85	73	28.0	19.4	27.1
ALVERT CREEK BUTYL ARFOT BASIN BUTYL	6430 9000	2/01/85 2/01/85		5.6 13.9	18.3	6.7 19.5	STORM LAKE	7780	2/01/85 2/06/85	37	23.7	17.6 7.0	22.7
ARTER CREEK ASHE CREEK METAL	7400 7800	2/01/85 2/01/85	16	3:1 6:1	4.2 5.8	3.4	STRYKER BASIN STUART MILL	6180 6500	1/29/85	60 19	21.4	15.1 2.0	23.4
łESSMAN RESERVOIR – łICKEN CREEK	6200 4060	1/28/85 1/29/85	13 35	2.8 11.1	1.0 8.5	2.9	STUART MOUNTAIN SUCKER CREEK	740 0 3960	2/05/85 1/29/85	65 4	21.8	19.5	22.5
OVER MEADOW METAL		2/01/85 1/31/85	34	10.0	12.8	10.4	TAYLOR ROAD TEN MILE LOWER	408 0 6600	1/29/85 1/29/85	22 22	5.0 4.3	4.0	3.0
LE CREEK BUTYL	7850 5600	2/01/85 1/30/85	14	6.6	9.5 2.7	10.3	TEN MILE MIODLE TEN MILE UPPER	68 00 8000	1/29/85	31 33	7 · 1 8 · 4	5.6 6.8	8.
MBINATION BUTYL	5600	2/01/85		3.1	2.7	3.9	TEPEE CREEK BUTYL TRINKUS LAKE	8000 6100	2/01/85	83	7 · 1 30 · 2	9.0 25.1	8.4 27.5
PRER BOTTOM BUTYL PRER MOUNTAIN	7700	1/28/85	30	6.0 8.2	5.8	7.8 8.1	TRUMAN CREEK	1060 6800	2/01/85	19	4.0	2.6	3.0
NYOTE HILL RYSTAL LAKE METAL	1200 6050	1/29/85 2/01/85	30 28	10.5	6.8	8.8	THENTY-ONE MILE	5600 7157	2/01/85	37	11.8	8:9 9:2	14.0
AISY PEAK ALY CREEK METAL	7600 5780	1/29/85 2/01/85		6.5	4.5	9.1	THIM CREEKS	3580	1/16/85	39	10.0	5.0	9,1
RKHOPSE LK: METAL AOMAN CFEEK BUTYL	6450	2/01/85 2/01/85		12.2	15.7 5.4	14.6	TWIN LAKES BUTYL UPPER HOLLAND LAKE	6400 6200	2 01/85 2/05/85	66	23.6	20.8 19.6	29.0
ESERT MOUNTAIN EVILS SLI OE	5600 8100	1/30/85 1/28/85	37 39	11.4	6.3 14.8	11 (0 15 (2	WALDRON BUTYL WARM SPRINGS BUTYL	5600 7800	2/01/85 2/01/85		7.6	3:8 10:8	7 i 9 15 i 6
ISCOVERY BASIN	7050 7800	1/29/85 2/01/85	29	6.2 5.1	5 i 1 7 i 1	7.2 6.8	HEASEL DIVIDE HEST ROSEBUD	5450 7 500	1/30/85	68 19	25.6 3.4	13.4	23.5 7.5
IX HILL UPUYER CREEK BUTYL	6400 5750	2/02/85 2/01/85	29	7.2 7.5	5.6 3.6	8.5	MESI VELL'SI BUTYL	6700 6700	1/29/85 1/29/85	33	8:3 6:5	7.2 5.4	8.6 7.0
MERY CREEK MERY CREEK BUTYL	4350 4350	1/30/85 2/01/85	12	12.6 12.7	8:0 7:6	10+7 10+6	WHISKEY CREEK BUTYL WHITE MILL BUTYL	6800 870 0	2/01/85 2/01/85		10.2 13.5	8.5 12.8	11.2 16.6
NOW COURSE	ELEVATION	OATE		WATER CONTENT	LAST YEAR	AVERAGE 1961-80	SHON COURSE	ELEVATION	DATE		WATER CONTENT	LAST YEAR	AVERAC 1961-8
FISH CREEK FISHER CREEK BUTYL	8000	1/29/85 2/01/85	27	6.8 19.2	9.2 19.2	6.4 25.6	WILLOW CREEK WOOO CREEK METAL	650 0 596 0	1/31/85 2/01/85	24	4+Z 10+0	5.5 2.5	5.1 8.1
LATTOP MIN BUTYL OURTH OF JULY	6300 3450	2/01/85 2/05/85	31	32.2 8.7	20+7 3+3	33.0	IOAHO						
RIDAY HILL ROHNER HEADOWS	1620 6480	2/05/85 1/28/85	52 20	17.2 4.6	7.4	17.8 5.9	ABOVE BURKE	4100	1/30/85	60	18.4	9.0	14.8
FROHNER MOUS BUTYL		2/01/85 1/30/85	30	4.5	4.8	5.3	BLACK MOOSE	6400 8160	2/01/85 2/01/85	92	11.6 25.1E	11.1	14.5
ARVER CREEK BUTYL	4250	2/01/85	 47	7.5	3.8	7.5	BLUE LEOGE MINE CAMP CREEK	6900 6580	2/01/85		8.0E		12.
RAVE CREEK	7100					16.2					6.0	9.8	
GRAVE CRK BUTYL	1300	1/30/85	42	14.2	13.4	12.2	HUMBOLOT GULCH	1250	1/30/85	26 49	6.0 14.0	4.8 6.6	
	4300 5030	1/30/85 2/01/85 1/30/85	42 38	12.8 13.4 9.5	6.8 7.3 5.0	12.2	HUMBOLOT GULCH ISLANO PARK KILGORE	4250 6290 6320	1/30/85 2/01/85 1/29/85	49 39 27	14.0 10.5 5.4	6.6 9.7 8.5	11.7
IANO CREEK BUTYL	4300	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85	42 38 56	12.8 13.4 9.5 9.0 22.0	6.8 7.3	12.2 9.0 10.7 22.6	HUMBOLOT GULCH ISLANO PARK KILGORE LOLO PASS LOOKOUT	4250 6290 6320 5240 5140	1/30/85 2/01/85 1/29/85 2/01/85 1/30/85	49 39 27 62 82	14.0 10.5 5.4 20.8 28.0	6.6 9.7 8.5 14.1 15.0	11:3 8:3 21:5 24:6
IANO CREEK BUTYL IAWKINS LAKE IAWKINS LAKE RUTYL	4300 5030 5030 6450	1/30/85 2/01/85 1/30/85 2/01/85	42 38 56	12.8 13.4 9.5 9.0	6.8 7.3 5.0 4.4	12.2 9.0 10.7	HUMBOLOT GULCH ISLANO PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE	4250 6290 6320 5240 5140 6200 5200	1/30/85 2/01/85 1/29/85 2/01/85 1/30/85 1/31/85 1/31/85	49 39 27 62 82 36 82	14.0 10.5 5.4 20.8 28.0 10.2 28.8	6.6 9.7 8.5 14.1 15.0 11.2 18.2	11. 8. 21. 24. 12. 25.
IANO CREEK BUTYL IAWKINS LAKE IAWKINS LAKE RUTYL IEART LAKE TRAIL IEBGEN OAM	4300 5030 5030 6450 6450 4800 6550	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85	42 38 56	12.8 13.4 9.5 9.0 22.0 17.6	6.8 7.3 5.0 4.4 12.1 10.6	12.2 9.0 10.7 22.6 21.2	HUMBOLOT GULCH ISLANO PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAHTELL MOUNTAIN	4250 6290 6320 5240 5140 6200 5200 6170 8720	1/30/85 2/01/85 1/29/85 2/01/85 1/30/85 1/31/85 1/31/85 2/01/85	19 39 27 62 82 36 82 61 61	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2	6.6 9.7 8.5 14.1 15.0 11.2 18.2 13.8 22,0	11. 8. 21. 24. 12. 25. 18. 23.
ANO CREEK BUTYL AWKINS LAKE AWKINS LAKE RUTYL EART LAKE TRAIL EBGEN OAM ELL ROARING OIVION ERRIG JUNCTION	4300 5030 5030 6450 6450 4800 6550	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 1/31/85	42 38 56 59 28	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9	6.8 7.3 5.0 4.4 12.1 10.6 10.6 8.6	12.2 9.0 10.7 22.6 21.2 15.7 8.8	HUMBOLOT GULCH ISLAND PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAHTELL MOUNTAIN SUNSET TARGHEE PASS	4250 6290 6320 5240 5140 6200 5200 6170 8720 5540 6980	1/30/85 2/01/85 1/29/85 2/01/85 1/30/85 1/31/85 1/31/85 2/01/85 2/01/85	19 39 27 62 82 36 82 61 61	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E	6.6 9.7 8.5 14.1 15.0 11.2 13.8 22.0 13.2 7.8	11. 8. 21. 24. 12. 25. 18. 23.
ANO CREEK BUTYL AWKINS LAKE AWKINS LAKE RUTYL EART LAKE TRAIL ERGEN OAM ELL ROARING OIVION EPRIG JUNCTION OLDBROOK OOO MEAOON	4300 5030 5030 6450 6450 4800 6550 E 5770 4850	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 1/31/85 1/31/85 1/29/85	12 38 56 59 28 58 52 30 24	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 19.9	6.8 7.3 5.0 4.4 12.1 10.6 10.6 8.6 15.7	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7	HUMBOLOT GULCH ISLAND PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAHTELL MOUNTAIN SUNSET	4250 6290 6320 5240 5140 6200 5200 6170 8720 5540	1/30/85 2/01/85 1/29/85 2/01/85 1/30/85 1/31/85 1/31/85 1/31/85 2/01/85 2/01/85	19 39 27 62 82 36 82 61 61	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7	6.6 9.7 8.5 14.1 15.0 11.2 18.2 13.8 22.0 13.2	11. 8. 21. 24. 12. 25. 18. 23. 23.
ANO CREEK BUTYL AWKINS LAKE AWKINS LAKE RUTYL EART LAKE TRAIL ERGEN OAM ELL ROARING OIVION EPRIG JUNCTION OLBROOK OOO MEAOOW OODOO BASIN BUTYL	4300 5030 5030 6450 6450 6550 5770 4850 4530 6600 6050	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 1/31/85 1/31/85 1/29/85 1/26/85 1/28/85	12 38 56 59 28 58 52 30 24 102	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 19.9 18.2 7.5 5.4	6.8 7.3 5.0 4.4 12.1 10.6 10.6 15.7 11.2 3.5 6.6 26.2 21.5	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7 7.5 7.8 34.8 28.3	HUMBOLOT GULCH ISLAND PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAHTELL MOUNTAIN SUNSET TARGHEE PASS VALLEY VIEN	4250 6290 6320 5240 5140 6200 5200 6170 8720 5540 6980 6680	1/30/85 2/01/85 1/29/85 2/01/85 1/30/85 1/31/85 1/31/85 1/31/85 2/01/85 2/01/85 2/01/85	19 39 27 62 82 36 82 61 61 64	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E 10.0	6,6 9,7 8,5 14,1 15,0 11,2 13,8 22,0 13,2 7,8 8,6	11. 8. 21. 24. 12. 25. 18. 23. 23.
ANO CREEK BUTYL AWKINS LAKE AWKINS LAKE RUTYL EART LAKE TRAIL ERGEN OAM ELL ROARING OIVION OLBROOK OOO MEAOOW OODOO BASIN OOOOO CREEK NTERGAARO	4300 5030 5030 6450 6450 7800 6550 5770 4850 4850 6600 6650 6050 5900 6450	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 1/31/85 1/31/85 1/29/85 1/28/85 2/01/85 2/01/85 2/01/85 1/29/85	12 38 56 59 28 52 30 24 102 97 21	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 19.9 18.2 7.5 5.4 42.0 32.1 37.3 4.5	6.8 7.3 5.0 4.4 12.1 10.6 10.6 8.6 15.7 11.2 3.5 6.6 26.2 21.5 24.6	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7 7.5 7.8 34.8 28.3 32.4 5.9	HUMBOLOT GULCH ISLAND PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAHTELL MOUNTAIN SUNSET TARGHEE PASS VALLEY VIEN	4250 6290 6320 5240 5140 6200 5200 6170 8720 5540 6980 6680	1/30/85 2/01/85 1/29/85 2/01/85 1/30/85 1/31/85 1/31/85 2/01/85 2/01/85 2/01/85 2/01/85	19 39 27 62 82 36 82 61 61 64 38 18	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E 10.0 15.6	6.6 9.7 8.5 14.1 15.0 11.2 18.2 13.8 22.0 13.2 7.8 8.6	11. 8, 21. 24. 12. 25. 18. 23. 23. 10.
ANO CREEK BUTYL AWKINS LAKE AWKINS LAKE RUTYL EART LAKE TRAIL ERGEN OAM ELL ROARING OIVION OCERROCK OOO MEAOOH OODOO BASIN OOOOO BASIN BUTYL OODOO CREEK NTERGAARO OHNSON PARK INGS HILL	4300 5030 5030 6450 6450 6550 E 5770 4850 4530 6600 6050 6050 5900 6450 6450 7500	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 1/31/85 1/31/85 1/29/85 1/28/85 2/01/85 2/01/85 2/01/85 1/29/85 1/29/85 1/29/85 1/29/85 1/31/85	12 38 56 59 28 52 30 24 102 97 21 17	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 19.9 18.2 7.5 5.4 42.0 32.1 37.3 4.5 3.4 9.7	6.8 7.3 5.0 4.4 12.1 10.6 8.6 15.7 11.2 3.5 6.6 26.2 21.5 21.6 2.8 2.8	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7 7.5 7.8 34.8 28.3 32.4 5.9 5.9	HUMBOLOT GULCH ISLAND PARK KILGORE LOLD PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAHTELL MOUNTAIN SUNSET TARGHEE PASS VALLEY VIEW WHITE ELEPHANT	4250 6290 6320 5240 5140 6200 5200 6170 8720 5540 6980 6680 7710	1/30/85 2/01/85 1/29/85 2/01/85 1/30/85 1/31/85 1/31/85 1/31/85 2/01/85 2/01/85 2/01/85	19 39 27 62 82 36 82 61 61 64	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E 10.0	6,6 9,7 8,5 14,1 15,0 11,2 13,8 22,0 13,2 7,8 8,6	11. 8. 21. 24. 12. 25. 18. 23. 23. 10. 11.
ANO CREEK BUTYL AHKINS LAKE AHKINS LAKE RUTYL EART LAKE TRAIL EBGEN OAM ELL ROARING OIVION EPRIG JUNCTION OLBROOK 1000 MEAOOH 100000 BASIN 100000 BASIN BUTYL 100000 CREEK 1NTERGAARO 10HNSON FARK 1TMANIS CAMP 1RAFT CREEK METAL	4300 5030 5030 6450 6450 6550 E 5770 4850 4530 6600 6050 6050 5900 6450 7500 3720 4750	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 1/31/85 1/31/85 1/29/85 1/28/85 2/01/85 2/01/85 2/01/85 1/29/85 1/29/85 1/29/85 1/29/85 2/01/85	42 38 56 59 28 58 52 30 24 102 97 21 17 36 7	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 18.2 7.5 5.4 42.0 32.1 37.3 4.5 3.4 9.7 1.2 9.4	6.8 7.3 5.0 4.4 12.1 10.6 8.6 15.7 11.2 3.5 6.6 26.2 21.5 21.5 21.6 2.8 7.6 1.6 7.3	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7 7.5 7.8 31.8 28.3 32.4 5.9 5.9 1.9 9.7	HUMBOLOT GULCH ISLAND PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAHTELL MOUNTAIN SUNSET TARGHEE PASS VALLEY VIEW WHITE ELEPHANT WYOMING BALO MOUNTAIN SNOTE BEARTOOTH LK. SNOTE	4250 6290 6320 5240 5140 6200 5200 6170 8720 5540 6980 6680 7710	1/30/85 2/01/85 1/29/85 2/01/85 1/30/85 1/31/85 1/31/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85	19 39 27 62 82 36 82 61 61 64 38 18	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E 10.0 15.6	6.6 9.7 8.5 14.1 15.0 11.2 18.2 13.8 22.0 13.2 7.8 8.6 14.4	11. 8. 21. 24. 12. 25. 18. 23. 23. 10. 11. 16.
ANO CREEK BUTYL AWKINS LAKE AWKINS LAKE RUTYL EART LAKE TRAIL EBGEN OAM ELL ROARING OIVION EDRIG JUNCTION OLBROOK OOO MEAOOW OODOO MEASIN OOOOO MASIN OOOOO MASIN OUTYL OODOO CREEK NTERGAARO OHMSON FARK INGS HILL IHANIS CAMP RAFT CREEK METAL AKEVIEW RIOGE	4300 5030 5030 6450 6450 6450 6550 5770 4850 1530 6600 6050 6050 5900 6450 7500 3720 4750 6930 7400	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 1/31/85 1/31/85 1/29/85 1/26/85 1/28/85 2/01/85 2/01/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/28/85 1/28/85	42 38 56 59 28 58 52 30 24 102 97 21 17	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 18.2 7.5 5.4 42.0 32.1 37.3 4.5 3.4 9.7 1.2 9.4 6.4 6.2	6.8 7.3 5.0 4.4 12.1 10.6 8.6 15.7 11.2 3.5 6.6 26.2 21.5 24.6 2.8 7.6 1.6 7.3 6.2 5.5	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7 7.5 7.8 34.8 28.3 32.4 5.9 5.5 9.9 1.9 9.7 8.5 7.6	HUMBOLOT GULCH ISLAND PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAHTELL MOUNTAIN SUNSET TARGHEE PASS VALLEY VIEW WHITE ELEPHANT WYOMING BALO MOUNTAIN SNOTE	4250 6290 6320 5240 5140 6200 5200 6170 8720 5540 6980 6680 7710	1/30/85 2/01/85 1/29/85 2/01/85 1/30/85 1/31/85 1/31/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85	19 39 27 62 82 36 82 61 61 64 38 18	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E 10.0 15.6	6.6 9.7 8.5 14.1 15.0 11.2 13.8 22.0 13.2 7.8 8.6 14.4	11. 8. 21. 24. 12. 25. 18. 23. 10. 11. 16.
ANO CREEK BUTYL AWKINS LAKE IAWKINS LAKE RUTYL IEART LAKE TRAIL IEBGEN OAM IELL ROARING OIVION IEBRIG JUNCTION IOODOO BASIN IOOOOO BASIN IOOOOO BASIN IOODOO CREEK INTERGAARO IOHNSON FARK INGS HILL INHANIS CAMP IRAFT CREEK METAL IAKEVIEW ROGE IAKEVIEW ROGE IAKEVIEW ROGE IAKEVIEW ROGE IAKEVIEW ROGE IAKENIEW ROG	4300 5030 5030 6450 6450 6450 6550 E 5770 4850 4530 6600 6050 6050 6450 7500 3720 4750 6930 7400 8100	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 1/31/85 1/29/85 1/26/85 1/28/85 2/01/85 2/01/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/28/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85	92 38 56 59 28 52 30 24 102 97 21 17 36 7	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 18.2 7.5 5.4 42.0 32.1 37.3 4.5 3.4 9.7 1.2 9.4 6.4 6.2 8.8 6.4	6.8 7.3 5.0 4.4 12.1 10.6 10.6 15.7 11.2 3.5 6.6 26.2 21.5 21.6 2.8 2.8 7.6 1.6 7.3 6.2 5.5 7.6 1.6 7.3	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7 7.5 7.8 34.8 28.3 32.4 5.9 5.5 9.9 1.9 9.7 8.5 7.6 7.7 6.9	HUMBOLOT GULCH ISLAND PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAHTELL MOUNTAIN SUNSET TARGHEE PASS VALLEY VIEW WHITE ELEPHANT WYOMING BALO MOUNTAIN SNOTE BEARTOOTH LK. SNOTE GURGESS PANGER STA GURGESS JCT. SNOTEL	9380 9380 9380 9380 9380 9380 9380 9380	1/30/85 2/01/85 1/29/85 2/01/85 1/31/85 1/31/85 1/31/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85	19 39 27 62 82 36 82 61 61 64 38 18	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E 10.0 15.6	6,6 9,7 8,5 14,1 15,0 11,2 13,8 22,0 13,2 7,8 8,6 14,4	11. 8. 21. 24. 12. 25. 18. 23. 23. 10. 11. 16.
ANO CREEK BUTYL AWKINS LAKE IAWKINS LAKE RUTYL IEART LAKE TRAIL IERGEN DAM IELL ROARING DIVIDI IERRIG JUNCTION IOLDROOK IOODOO BASIN IOODOO BASIN IOODOO CREEK INTERGAARO IOHNSON FARK INGS HILL ITWANIS CAMP IRAFT CREEK METAL AKEVIEH ROGE AKEVIEH ROGE AKEVIEH ROGE ICHHI RIOGE BUTYL ICK CREEK ICK CREEK BUTYL	4300 5030 5030 6450 6450 6550 E 5770 4850 6550 6050 6050 6050 6050 6450 7500 3720 4750 6930 7400 8100 6860 6860 6860	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 1/31/85 1/29/85 1/26/85 2/01/85 2/01/85 2/01/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85	92 38 56 59 28 52 30 24 102 97 21 17 36 7	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 18.2 7.5 5.4 42.0 32.1 37.3 4.5 3.4 9.7 1.2 9.4 6.6 6.2 8.8 6.4 5.1 6.6	6.8 7.3 5.0 4.4 12.1 10.6 10.6 8.6 15.7 11.2 3.5 6.6 26.2 21.5 21.5 21.6 2.8 7.6 1.6 7.3 6.2 5.7	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7 7.5 7.8 31.8 28.3 32.1 5.5 9.9 1.9 9.7 8.5 7.6 7.7 6.9 7.0 5.7	HUMBOLOT GULCH ISLAND PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAMTELL MOUNTAIN SUNSET TARGHEE PASS VALLEY VIEW WHITE ELEPHANT WYOMING BALO MOUNTAIN SNOTE BEARTOOTH LK. SNOTE GURGESS FANGER STA BURGESS JCT. SNOTEL CANYON CANYON SNOTEL EAST ENTRANCE EVENING STAR SNOTEL	9380 9280 9380 9380 9380 9380 9380 9380 9380 93	1/30/85 2/01/85 1/29/85 2/01/85 1/31/85 1/31/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85	49 39 27 62 82 36 82 61 61 64 38 48	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E 10.0 15.6	6.6 9.7 8.5 14.1 15.0 11.2 13.8 22,0 13.2 7.8 8.6 11.7	11. 8. 21. 24. 12. 25. 18. 23. 23. 10. 11. 16.
ANO CREEK BUTYL IAHKINS LAKE IAHKINS LAKE RUTYL IEART LAKE TRAIL IEBGEN OAM IELL ROARING OIVION IEPRIG JUNCTION IOLBROOK IOOOOO BASIN IOOOOO BASIN IOOOOO BASIN IOOOOO BASIN IOOHNSON PARK INTERGAARO IOHNSON PARK INTERGAARO IOHNSON PARK ITHANIS CAMP ITHA	4300 5030 5030 6450 6450 6450 6550 E 5770 4850 650 6050 6050 6050 6450 7500 3720 4750 6930 7400 L 7400 8100 6860 6860 6860 8880 7900	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 1/31/85 1/31/85 1/29/85 1/28/85 2/01/85 2/01/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85	92 38 56 59 28 52 30 24 102 97 21 17 36 7 26 24 25 48	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 18.2 7.5 5.4 42.0 32.1 37.3 4.5 3.4 9.7 1.2 9.4 6.4 5.1 6.6 14.0 11.6	6.8 7.3 5.0 4.4 12.1 10.6 8.6 15.7 11.2 3.5 6.6 22.1.5 24.6 2.8 7.6 1.6 7.3 6.2 5.5 7.4 4.5 5.8 4.9 15.2 12.3	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7 7.5 7.8 34.8 28.3 32.4 5.9 5.5 9.9 1.9 9.7 8.5 7.6 7.7 6.9 7.0 5.7 15.7	HUMBOLOT GULCH ISLAND PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAHTELL MOUNTAIN SUNSET TARGHEE PASS VALLEY VIEW WHITE ELEPHANT WYOMING BALO MOUNTAIN SNOTE BEARTOOTH LK. SNOTE BURGESS FANGER STA BURGESS JCT. SNOTEL CANYON CANYON SNOTEL EAST ENTRANCE EVENING STAR SNOTEL LAKE CAMP	9380 9380	1/30/85 2/01/85 1/29/85 2/01/85 1/31/85 1/31/85 2/01/85	44 38 48 38 48 38 48 38 48 38 48 38 48	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E 10.0 15.6	6.6 9.7 8.5 14.1 15.0 11.2 13.8 22,0 13.2 7.8 8.6 14.4	11. 8. 21. 24. 12. 25. 13. 23. 10. 11. 16.
IANO CREEK BUTYL IAWKINS LAKE IAWKINS LAKE IAWKINS LAKE RUTYL IEART LAKE TRAIL IEEGEN OAM IELL ROARING OIVION IEPRIG JUNCTION IOODOO BASIN IOOOOO BASIN IOOOOO BASIN BUTYL IOODOO CREEK INTERGAARO JOHNSON FARK INGS HILL ICHANIS CAMP IRAFT CREEK METAL LAKEVIEW ROGE LAKEVIEW ROGE LAKEVIEW ROGE LOKE CREEK LICK CREEK LICK CREEK BUTYL LOME MOUNTAIN LOWER THIN METAL LUBRECHT FLUME LUBRECHT FLUME	4300 5030 5030 6450 6450 6450 6550 5770 4850 1530 6600 6050 6050 6050 6450 7500 3720 4750 6930 7400 8100 6860 6860 6860 6860 6860 7900 4680 771 771 771 771 771 771 771 77	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 1/31/85 1/29/85 1/28/85 2/01/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 2/01/85 1/28/85 2/01/85 2/01/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85	92 38 56 28 58 52 30 24 102 97 21 17 36 24 26 24 25 48 4 4 4 4 4 4 4 4 4 -	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 18.2 7.5 5.4 42.0 32.1 37.3 4.5 3.4 9.7 1.2 9.4 6.4 6.2 8.8 6.4 5.1 6.6 14.0 11.6 2.8 3.8	6.8 7.3 5.0 4.4 12.1 10.6 8.6 15.7 11.2 3.5 6.6 20.2 21.5 21.6 2.8 7.6 1.6 7.3 6.2 5.5 7.4 4.5 5.8 4.9 15.2 16.2 17.3	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7 7.5 7.8 34.8 28.3 32.4 5.9 5.5 9.9 1.9 9.7 8.5 7.6 7.7 6.9 7.0 5.7 15.7 15.7 15.7 15.7 15.7 15.7 15.7 15.7 15.7 16.9 17.7 17.7 17.5 17.7 17.5 17.7 17.5 17.7 17.5 17.7 17.5 17.7 17.5 17.7 17.5 17.7 17.5 17.7 17.5 17.7 17.5 17.7 17.5 17.7 17.5 17.7 17.5 17.7 17.5 17.7 17.7 17.5 17.7 17.	HUMBOLOT GULCH ISLAND PARK KILGORE LOLO PASS LOCKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAHTELL MOUNTAIN SUNSET TARGHEE PASS VALLEY VIEW WHITE ELEPHANT WYOMING BALO MOUNTAIN SNOTE BEARTOOTH LK. SNOTE BURGESS FANGER STA BURGESS JCT. SNOTEL CANYON CANYON SNOTEL EAST ENTRANCE EVENING STAR SNOTEL LAKE CAHR LUPINE CREEK NORRIS BASIN (OLO) NORTH TONGUE	9380 9380 9380 9380 9380 9380 9380 9380 9380 7880 7880 7880 7880 7940 7940 7940 7940 7940 7940 7940 7940 7980 8450	1/30/85 2/01/85 1/29/85 2/01/85 1/31/85 1/31/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 1/31/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 1/30/85 2/01/85 1/30/85 1/30/85 1/30/85 1/30/85	49 39 27 62 82 36 82 61 61 64 38 48	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E 10.0 15.6	6.6 9.7 8.5 14.1 15.0 11.2 13.8 22.0 13.2 7.8 8.6 14.4	11. 8. 21. 24. 12. 25. 18. 23. 10. 11. 16.
ANO CREEK BUTYL AWKINS LAKE AWKINS LAKE RUTYL EART LAKE TRAIL ERGEN OAM ELL ROARING OIVION EPRIG JUNCTION OOLBROOK OOOOO BASIN OOOOO BASIN BUTYL OOOOO PASIN BUTYL OODOO FARK INGS HILL ITHANIS CAMP FRAFT CREEK METAL AKEVIEH CANYON AKEVIEH RIGGE AKEVIEH RIGGE LICK CREEK LICK C	4300 5030 5030 6450 6450 6550 E 5770 4850 4530 6600 6050 6050 6050 6450 7500 3720 4750 6930 7400 8100 6860	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 1/31/85 1/29/85 1/28/85 2/01/85 2/01/85 1/29/85 1/29/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85	92 38 56 28 58 52 30 24 102 97 21 17 36 7 26 24 25 48 15 7	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 19.9 18.2 7.5 5.4 42.0 32.1 37.3 4.5 3.4 9.7 1.2 9.4 6.4 5.1 6.6 14.0 11.6 2.8 3.8 3.6 1.6	6.8 7.3 5.0 4.4 12.1 10.6 10.6 8.6 15.7 11.2 3.5 6.6 26.2 21.5 21.5 21.6 2.8 7.6 1.6 7.3 6.2 5.5 7.4 4.5 5.8 4.9 15.2 12.3 2.0 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7 7.5 7.8 34.8 28.3 32.4 5.9 5.5 9.9 1.9 9.7 8.5 7.6 7.7 6.9 7.0 5.7 13.4 5.0 3.7 5.7 3.7 3.7 3.7 3.7 3.7 3.7 3.7 3	HUMBOLOT GULCH ISLAND PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAMTELL MOUNTAIN SUNSET TARGHEE PASS VALLEY VIEW WHITE ELEPHANT WYOMING BALO MOUNTAIN SNOTE BEARTOOTH LK. SNOTE GURGESS FANGER STA GURGESS JCT. SNOTEL CANYON SNOTEL EAST ENTRANCE EVENING STAR SNOTEL LAKE CAMF LUPINE CREEK NORRIS BASIN (OLO) NORTH TONGUE OLO FAITHFUL FARKERS FEAK SNOTEL	9380 9380 9380 9380 9380 9380 9380 9380	1/30/85 2/01/85 1/29/85 2/01/85 1/31/85 1/31/85 2/01/85	49 39 27 62 82 36 82 61 61 64 38 48 37 28 26 30 28	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E 10.0 15.6	6.6 9.7 8.5 14.1 15.0 11.2 13.8 22,0 13.2 7.8 8.6 11.7 12.9 10.8 4.3 5.7 7.2 7.2 5.2 16.4 3.6 4.3	11. 8. 21. 24. 12. 25. 18. 23. 23. 10. 11. 16. 15. -
IANO CREEK BUTYL IAHKINS LAKE IAHKINS LAKE RUTYL IEART LAKE TRAIL IEBGEN OAM IEELL ROARING OIVION IEERIG JUNCTION IOLBROOK IOOOO BASIN IOOOOO BASIN IOOOOO BASIN BUTYL IOOOOO FARK INTERGAARO JOHNSON FARK INTERGAARO JOHNSON FARK INGS HILL ICKAFT CREEK METAL IAKEVIEH CANYON IAKEVIEH CANYON IAKEVIEH RIOGE IAKEVIEH ROGE ICK CREEK ICK CREEK LICK CREEK BUTYL LOME MOUNTAIN LOWER THIN METAL LUBRECHT FUME BUT LUBRECHT FOREST NO LUBRECHT FOREST NO	4300 5030 5030 6450 6450 6450 6550 E 5770 4850 650 6050 6050 6050 6450 7500 3720 4750 6930 7400 8100 6860	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 1/31/85 1/29/85 1/28/85 2/01/85 2/01/85 1/29/85 1/29/85 1/28/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85	92 38 56 59 28 58 52 30 24 102 97 21 17 36 7 26 24 48 48 15 7 7 8	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 19.9 18.2 7.5 5.4 42.0 32.1 37.3 4.5 3.4 9.7 1.2 9.4 6.6 6.6 14.0 11.6 2.8 3.8 3.6 1.6 2.8	6.8 7.3 5.0 4.4 12.1 10.6 8.6 15.7 11.2 3.5 6.6 20.2 21.5 21.6 2.8 7.6 1.6 7.3 6.2 5.5 7.4 4.5 5.8 4.9 15.2 12.3 2.0 2.7 3.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7 7.5 7.8 34.8 28.3 32.4 5.9 5.5 9.9 1.9 9.7 8.5 7.6 7.7 6.9 7.7 15.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 1	HUMBOLOT GULCH ISLAND PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAHTELL MOUNTAIN SUNSET TARGHEE PASS VALLEY VIEW WHITE ELEPHANT WYOMING BALO MOUNTAIN SNOTE BEARTOOTH LK. SNOTE BURGESS PANGER STA BURGESS JCT. SNOTEL CANYON CANYON SNOTEL EAST ENTRANCE EVENING STAR SNOTEL LAKE CAMP LUPINE CREEK NOFRIS BASIN (OLO) NORTH TONGUE OLO FAITHFUL PARKERS PEAK SNOTEL SYLVAN LAKE SNOTEL SYLVAN LAKE SNOTEL	9380 4250 6290 6320 5240 5140 6200 5200 6170 8720 5540 6980 6680 7710 9380 480 7880 7880 7880 7880 7940 7940 6960 9200 7780 7380 7500 8450 7400 9400	1/30/85 2/01/85 1/29/85 2/01/85 1/31/85 1/31/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 1/31/85 2/01/85	44 38 48 37 28 26 30 28 38 	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E 10.0 15.6	6.6 9.7 8.5 14.1 15.0 11.2 13.8 22,0 13.2 7.8 8.6 14.7 12.9 10.8 4.3 5.7 7.2 7.2 5.2 16.4 3.6 4.9 	11. 8. 21. 24. 12. 25. 18. 23. 10. 11. 16. 15. - 11. 11. 7. 8. 8. 10. 21. 22. 23. 10. 11. 16. 17. 18. 18. 18. 18. 18. 18. 18. 18
HAND CREEK HAND CREEK BUTYL HAWKINS LAKE BUTYL HEART LAKE TRAIL HERGEN DAM HELL ROARING DIVIDE HERRIG JUNCTION HOLBROOK HOODOO BASIN HOODOO BASIN HOODOO CREEK INTERGAARO JOHNSON PARK KINGS HILL KKWANIS CAMP KRAFT CREEK METAL LAKEVIEH CANYON LAKEVIEH RIOGE LAKEVIEH ROG, META LEMHI RIOGE BUTYL LICK CREEK LICK CREEK BUTYL LUBRECHT FUME LUBRECHT FOREST NO LUBRECHT FOREST NO LUBRECHT FOREST NO LUBRECHT HYOROPLOT MANY GLACIER MANY GLACIER MANY GLACIER	4300 5030 5030 6450 6450 6450 6550 E 5770 4850 6050 6050 6050 6050 6450 7500 3720 4750 6930 7400 8100 6860	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 2/01/85 1/31/85 1/29/85 1/28/85 2/01/85 2/01/85 1/29/85 1/29/85 1/29/85 1/29/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 1/28/85 1/29/85 1/28/85 1/29/85	42 38 56 59 28 52 30 24 102 97 21 17 36 7 26 24 25 48 15 17 7 8 19 10 10 10 10 10 10 10 10 10 10	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 18.2 7.5 5.4 42.0 32.1 37.3 4.5 3.4 9.7 1.2 9.4 6.4 5.1 6.6 14.0 11.6 2.8 3.8 3.6 1.6 1.6 2.8 14.6 14.0	6.8 7.3 5.0 4.4 12.1 10.6 8.6 15.7 11.2 3.5 6.6 22.1.5 24.6 2.8 7.6 1.6 7.3 6.2 5.5 7.4 4.5 5.7 1.2 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7 7.5 7.8 31.8 28.3 32.4 5.9 5.5 9.9 1.9 9.7 8.5 7.6 7.7 6.9 7.0 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 5.7 13.9 13	HUMBOLOT GULCH ISLAND PARK KILGORE LOLD PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAMTELL MOUNTAIN SUNSET TARGHEE PASS VALLEY VIEW WHITE ELEPHANT WYOMING BALO MOUNTAIN SNOTE BEARTOOTH LK. SNOTE BURGESS FANGER STA BURGESS JCT. SNOTEL CANYON CANYON SNOTEL EAST ENTRANCE EVENING STAR SNOTEL LAKE CAMP LUPINE CREEK NORRIS BASIN (OLO) NORTH TONGUE OLO FAITHFUL PARKERS PEAK SNOTEL SYLVAN PASS THUMB DIVIDE TOGNOTEE PASS	9380 9380 9380 9380 9380 9380 9380 9380	1/30/85 2/01/85 1/29/85 2/01/85 1/31/85 1/31/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 1/30/85 2/01/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85	49 39 27 62 82 36 82 61 61 64 38 48 26 30 28 32	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E 10.0 15.6	6.6 9.7 8.5 14.1 15.0 11.2 18.2 13.8 22,0 13.2 7.8 8.6 11.1 13.7 12.9 10.8 4.3 5.7 7.2 7.2 7.2 5.2 6.5 4.9 13.5 6.2	11. 8. 21. 24. 12. 25. 18. 23. 10. 11. 16. 15. - - - - - - - - - - - - -
HANO CREEK BUTYL HAWKINS LAKE HAWKINS LAKE RUTYL HEART LAKE TRAIL HERER OAM HELL ROARING DIVIDI HEPRIG JUNCTION HOUDOO BASIN HOUDOO BASIN HOUDOO CREEK INTERGAARO JUHNSON PARK KINAS CAMP KRAFT CREEK METAL LAKEVIEW CANYON LAKEVIEW ROG, METAL LICK CREEK LICK CREEK LICK CREEK LICK CREEK LICK CREEK LICK CREEK LUCK CREEK LU	4300 5030 5030 6450 6450 6450 6550 E 5770 4850 6050 6050 6050 6050 6450 7500 3720 4750 6930 7400 8100 6860	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 2/01/85 1/31/85 1/29/85 1/28/85 2/01/85 1/29/85 1/29/85 1/28/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 1/28/85 1/28/85 1/28/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85	92 	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 18.2 7.5 5.4 42.0 32.1 37.3 4.5 3.4 9.7 1.2 9.4 6.4 6.2 8.8 6.4 5.1 6.6 14.0 11.6 2.8 3.8 3.6 1.6 1.6 1.6 2.8 14.6 15.5 6.8	6.8 7.3 5.0 4.4 12.1 10.6 10.6 8.6 15.7 11.2 3.5 6.6 2.8 2.8 7.6 1.6 7.3 6.2 5.5 7.4 9.5 5.8 4.9 15.2 12.3 2.0 2.7 3.0 1.1 9.0 1.1 9.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7 7.5 7.8 34.8 28.3 32.4 5.9 5.5 9.7 8.5 7.6 7.7 6.9 7.0 5.7 15.7 13.9 5.0 3.7 5.7 3.1 3.6 5.6 14.5 13.5 11.8 11.4	HUMBOLOT GULCH ISLAND PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAMTELL MOUNTAIN SUNSET TARGHEE PASS VALLEY VIEW WHITE ELEPHANT WYOMING BALO MOUNTAIN SNOTE BEARTOOTH LK. SNOTE GURGESS FAGER STA GURGESS JCT. SNOTEL CANYON CANYON SNOTEL EAST ENTRANCE EVENING STAR SNOTEL LAKE CAMF LUPINE CREEK NORRIS BASIN (OLO) NORTH TONGUE OLO FAITHFUL PARKERS PEAK SNOTEL SYLVAN LAKE SNOTEL SYLVAN LAKE SNOTEL SYLVAN PASS THUME DIVIDE TOGNOTEE PASS TOGNOTEE PASS TOGNOTEE PASS TOGNOTEE PASS	9380 9380 9380 9380 9380 9380 9380 9380 9380 9380 9380 7880 7880 7880 7880 7940 6960 9200 7780 7380 7500 8450 7400 9400 8420 7100 9580 9580 9160	1/30/85 2/01/85 1/29/85 2/01/85 1/31/85 1/31/85 2/01/85	19 39 27 62 82 36 82 61 61 64 38 48 26 30 28 38 38 26 30 28 38 26 30 25 30 30 30 30 30 30 30 30 30 30 30 30 30	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E 10.0 15.6 10.1 11.5 11.8 4.3E 6.6 9.0 9.5 8.0 14.8 5.5 6.7 6.6 7.1E 10.2 11.9 13.9 8.6 14.3 14.3 14.3	6.6 9.7 8.5 14.1 15.0 11.2 13.8 22,0 13.2 7.8 8.6 11.7 12.9 10.8 4.3 5.7 7.2 7.2 5.2 16.4 3.6 4.3 5.7 7.2 7.2 5.2 16.5 4.9	11.: 8.: 21.: 24.: 12.: 25.: 18.: 23.: 10.: 11.: 16.: 15.:
ANO CREEK BUTYL AWKINS LAKE AWKINS LAKE RUTYL EART LAKE TRAIL EBGEN OAM ELL ROARING OIVION EPRIG JUNCTION OOLBROOK OOOOO BASIN OOOOO BASIN BUTYL OODOO CREEK NTERGAARO OOHNSON FARK (INGS HILL ITHANIS CAMP EAFT CREEK METAL AKEVIEH ROGG AKEVIEH ROGG AKEVIEH ROGG ICK CREEK ICK CR	4300 5030 5030 6450 6450 6450 6550 E 5770 4850 6050 6050 6050 6450 6450 7500 3720 4750 6930 7400 6860 6860 6860 6860 6860 6860 6860 6	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 2/01/85 1/31/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 1/28/85 1/28/85 2/01/85 1/28/85 1/28/85 1/28/85 1/28/85 1/28/85 1/28/85 1/28/85 1/28/85 1/28/85 1/28/85 1/28/85 1/28/85 1/28/85 1/28/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/29/85 1/28/85 1/29/85 1/29/85 1/28/85 1/29/85 1/28/85 1/29/85 1/28/85 1/29/85	92 	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 18.2 7.5 5.4 42.0 32.1 37.3 4.5 3.4 9.7 1.2 9.4 6.4 5.1 6.6 14.0 11.6 2.8 3.8 3.6 1.6 2.8 14.6 14.0 15.5 6.8 5.0	6.8 7.3 5.0 4.4 12.1 10.6 8.6 15.7 11.2 3.5 6.6 2.8 7.6 1.6 7.3 6.2 5.5 7.4 4.5 5.8 7.4 4.5 5.8 7.6 1.2 1.2 1.3 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7 7.5 7.8 34.8 28.3 32.4 5.9 5.5 9.7 8.5 7.6 7.7 6.9 7.0 5.7 13.4 5.0 3.7 5.7 3.1 3.6 5.6 14.5 13.5 11.8	HUMBOLOT GULCH ISLAND PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAMTELL MOUNTAIN SUNSET TARGHEE PASS VALLEY VIEW WHITE ELEPHANT WYOMING BALO MOUNTAIN SNOTE BEARTOOTH LK. SNOTE BURGESS JCT. SNOTEL CANYON CANYON SNOTEL EAST ENTRANCE EVENING STAR SNOTEL LAKE CAMF LUPINE CREEK NORRIS BASIN (OLO) NORTH TONGUE OLO FAITHFUL PARKERS PEAK SNOTEL SYLVAN PASS THUMB DIVIDE TOGHOTEE PASS	9380 6320 5240 5140 6200 5200 6170 8720 5540 6980 6680 7710 9380 L 9380 7880 7880 7880 7880 7880 7940 6960 9200 7780 7380 7500 8450 7400 9400 8420 7100 7980 9580 9160 8400 7650	1/30/85 2/01/85 1/29/85 2/01/85 1/30/85 1/31/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 1/31/85 2/01/85 1/31/85 2/01/85 1/31/85 2/01/85 1/31/85 2/01/85 1/31/85 1/31/85 2/01/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85	19 39 27 62 82 36 82 61 61 64 38 18 44 26 30 28 26 30 28 25	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E 10.0 15.6 10.1 11.5 11.8 4.3E 6.6 9.5 8.0 14.8 5.5 6.7 6.6 7.1E 10.2 11.9 13.9 8.6 14.3 14.3 14.3 14.3 15.5 16.5 16.5 16.5 17.5 18.5 19	6.6 9.7 8.5 14.1 15.0 11.2 13.8 22,0 13.2 7.8 8.6 14.4 14.7 12.9 10.8 4.3 5.7 7.2 7.2 5.2 16.4 3.6 4.8 5.2 6.5 4.9 13.5 6.2 9.6 18.8 18.8 18.8 18.8 18.8 18.8 18.8 18	11.7 8.2 21.5 24.4 12.7 25.8 18.3 23.0 10.5 11.7 16.0 15.1 11.7 7.7 8.8 8.1 10.2 11.7 11.7 11.7 11.7 11.7 11.7 11.7 11
ANO CREEK BUTYL AWKINS LAKE AWKINS LAKE RUTYL EART LAKE TRAIL EBGEN OAM ELL ROARING OIVION EPRIG JUNCTION OOLBROOK OOO MEAOOM OODOO BASIN BUTYL OODOO CREEK NTERGAARO OHNSON FARK INGS HILL INANIS CAMP RAFT CREEK METAL AKEVIEW ROGG, META EMHI RIOGE BUTYL ICK CREEK ICK CREEK ICK CREEK BUTYL UBRECHT FUME UBRECHT FOREST NO LUBRECHT FOREST	4300 5030 5030 6450 6450 6450 6550 E 5770 4850 6550 6050 6050 6050 6050 6450 7500 3720 4750 6930 7400 8100 6860 6860 8880 77900 4680 1 1480 1	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 2/01/85 1/31/85 1/29/85 1/28/85 2/01/85 1/29/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 1/29/85 1/29/85 1/31/85 2/01/85 1/29/85 1/31/85 2/01/85 1/29/85 1/31/85 2/01/85 1/29/85 1/31/85 2/01/85	92 	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 19.9 18.2 7.5 5.4 42.0 32.1 37.3 4.5 3.4 9.7 1.2 9.4 6.6 14.0 11.6 2.8 3.8 3.6 1.6 2.8 14.6 14.0 15.5 6.8 5.0 10.7 6.8	6.8 7.3 5.0 4.4 12.1 10.6 10.6 8.6 15.7 11.2 3.5 6.6 26.2 21.5 21.6 2.8 2.8 7.6 1.6 7.3 6.2 5.5 7.4 4.5 5.8 4.9 15.2 12.3 2.0 2.7 3.0 1.1 .9 3.0 7.5 7.0 9.3 5.3	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7 7.5 7.8 34.8 28.3 32.4 5.9 5.5 9.9 1.9 9.7 8.5 7.6 7.7 6.9 7.0 5.7 13.4 5.0 3.7 5.7 13.4 5.0 3.7 5.7 13.6 5.6 5.7 3.1 3.6 5.6 5.7 3.1 3.6 5.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.6 5.7 3.1 3.6 5.7 3.1 3.6 5.6 5.7 3.1 3.6 5.6 5.7 3.1 3.6 5.7 3.1 3.6 5.6 5.7 3.1 3.6 5.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.7 3.1 3.6 5.6 5.7 3.1 3.6 5.6 5.7 3.1 3.6 5.7 3.1 3.6 5.6 5.7 3.1 3.6 5.6 5.6 5.7 3.1 3.6 5.6 5.6 5.6 5.7 3.1 3.6 5.6 5.6 5.7 3.1 3.6 5.6 5.6 5.6 5.7 3.1 3.6 5.6 5.6 5.7 3.1 3.6 5.6 5.7 3.7 3.7 3.7 3.7 3.7 3.7 3.7 3	HUMBOLOT GULCH ISLAND PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAMTELL MOUNTAIN SUNSET TARGHEE PASS VALLEY VIEW WHITE ELEPHANT WYOMING BALO MOUNTAIN SNOTE BEARTOOTH LK. SNOTE BURGESS JCT. SNOTEL CANYON CANYON SNOTEL EAST ENTRANCE EVENING STAR SNOTEL LAKE CAMF LUPINE CREEK NORRIS BASIN (OLO) NORTH TONGUE OLO FAITHFUL PARKERS PEAK SNOTEL SYLVAN LAKE SNOTEL SYLVAN LAKE SNOTEL SYLVAN PASS THUME DIVIDE TOGMOTEE PASS	9380 6380 5240 5140 6200 5200 6170 8720 5540 6980 6680 7710 9380 P380 7880 7880 7880 7880 7940 7940 6960 9200 7780 7380 7500 8450 7400 9400 8420 7100 7980 9580 9160 8400	1/30/85 2/01/85 1/29/85 2/01/85 1/31/85 1/31/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 2/01/85	19 39 27 62 82 36 82 61 61 64 38 18 44 26 30 28 26 30 28 25	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E 10.0 15.6 10.1 11.5 11.8 4.3E 6.6 9.5 8.0 14.8 5.5 6.7 6.6 7.1E 10.2 11.9 13.9 8.6 14.3 15.5 16.6 16	6.6 9.7 8.5 14.1 15.0 11.2 13.8 22,0 13.2 7.8 8.6 10.1 10.8 4.3 5.7 7.2 7.2 5.2 16.4 3.6 4.8 5.7 7.2 7.2 5.2 16.4 3.6 4.9 13.5 6.2 9.6 13.5 6.2 9.6 13.5 14.6 15.6 16.0 16.0 16.0 16.0 16.0 16.0 16.0 16	11.7 8.2 21.5 24.6 12.2 25.8 18.9 23.0 23.0 10.5 11.7 16.0
AND CREEK BUTYL AWKINS LAKE AWKINS LAKE AWKINS LAKE RUTYL CART LAKE TRAIL CART JUNCTION OLD CARTING OIVION OLD CARTING OIVION OLD CARTIN OLD CARTIN OLD CARTIN OLD CARTIN CART CART CART CART CART CART CART CART	4300 5030 5030 6450 6450 6450 6550 E 5770 4850 630 6050 6050 6050 6450 7500 3720 4750 6930 7400 8100 6860 8880 7700 4680 6860 8880 7700 4700 4700 4700 4700 4700 6860 6860 6860 6860 6860 8880 7900 4680 6860 6860 8880 7900 4680 6860 8880 7900 4700 4800 6860 6860 8880 7900 6860 6860 8880 7900 6860 6860 6860 8880 7900 6860 6860 6860 8880 7900 6860 6860 6860 8880 7900 6860 6860 6860 6860 8880 7900 6860 6850	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 2/01/85 1/31/85 1/29/85 1/28/85 2/01/85 1/29/85 1/29/85 1/28/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/29/85 2/01/85 2/01/85	42 38 56 59 28 52 30 24 102 97 21 17 36 7 26 24 17 36 7 48 15 48 4	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 18.2 7.5 5.4 42.0 32.1 37.3 4.5 3.4 9.7 1.2 9.4 6.4 6.6 14.0 11.6 2.8 3.8 3.6 1.6 14.0 15.5 6.8 14.6 14.0 15.5 6.8 14.6 14.0 15.5 6.8	6.8 7.3 5.0 4.4 12.1 10.6 8.6 15.7 11.2 3.5 6.6 26.2 21.5 24.6 2.8 7.6 1.6 7.3 6.2 5.5 7.4 4.5 5.8 4.9 15.2 12.3 2.0 2.7 3.0 1.1 9 3.0 7.5 7.0 8.3 10.9 8.3 3.7 8.6 8.5	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7 7.5 7.8 34.8 28.3 32.4 5.9 9.7 8.5 9.9 1.9 9.7 8.5 7.6 7.7 6.9 7.0 5.7 13.4 5.0 3.7 5.7 13.4 5.0 3.7 5.7 13.5 11.8 11.4 9.0 15.7 5.2 15.2 8.0	HUMBOLOT GULCH ISLAND PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAMTELL MOUNTAIN SUNSET TARGHEE PASS VALLEY VIEW WHITE ELEPHANT WYOMING BALO MOUNTAIN SNOTE BEARTOOTH LK. SNOTE BURGESS JCT. SNOTEL CANYON CANYON SNOTEL EAST ENTRANCE EVENING STAR SNOTEL LAKE CAMF LUPINE CREEK NORRIS BASIN (OLO) NORTH TONGUE OLO FAITHFUL PARKERS PEAK SNOTEL SYLVAN PASS THUMB DIVIDE TOGHOTEE PASS	9380 6320 5240 5140 6200 5200 6170 8720 5540 6980 6680 7710 9380 L 9380 7880 7880 7880 7880 7880 7940 6960 9200 7780 7380 7500 8450 7400 9400 8420 7100 7980 9580 9160 8400 7650	1/30/85 2/01/85 1/29/85 2/01/85 1/30/85 1/31/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 1/31/85 2/01/85 1/31/85 2/01/85 1/31/85 2/01/85 1/31/85 2/01/85 1/31/85 1/31/85 2/01/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85	19 39 27 62 82 36 82 61 61 64 38 18 44 26 30 28 26 30 28 25	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E 10.0 15.6 10.1 11.5 11.8 4.3E 6.6 9.5 8.0 14.8 5.5 6.7 6.6 7.1E 10.2 11.9 13.9 8.6 14.3 14.3 14.3 14.3 15.5 16.5 16.5 16.5 17.5 18.5 19	6.6 9.7 8.5 14.1 15.0 11.2 13.8 22,0 13.2 7.8 8.6 10.1 10.8 4.3 5.7 7.2 7.2 5.2 16.4 3.6 4.8 5.7 7.2 7.2 5.2 16.4 3.6 4.9 13.5 6.2 9.6 13.5 6.2 9.6 13.5 14.6 15.6 16.0 16.0 16.0 16.0 16.0 16.0 16.0 16	11.7 8.7 21.1 22.1 25.8 18.2 3.1 23.1 23.1 10.5 11.7 16.6 15.1 11.7 7.7 8.8 8.7 10.5 11.7 7.7 8.8 9.1 14.2 19.1 19.1 19.1 19.1 19.1 19.1 19.1 19
AND CREEK BUTYL AWKINS LAKE AWKINS LAKE RUTYL EART LAKE TRAIL ERGEN OAM ELL ROARING OIVION ELL ROARING OIVION DOLBROOK DOOD BASIN DOODO BASIN DOODO BASIN BUTYL DODDO CREEK NTERGAARO OHNSON PARK INGS HILL THANIS CAMP RAFT CREEK METAL AKEVIEH ROGE AKEVIEH ROGE AKEVIEH ROGE EHHI RIOGE BUTYL ICK CREEK ICK CREEK BUTYL ONE MOUNTAIN OMER THIN METAL UBRECHT FOREST NO UBRECHT FO	4300 5030 5030 6450 6450 6450 6550 E 5770 4850 630 6050 6050 6050 6450 7500 3720 4750 6930 7400 8100 6860 8880 7700 4680 6860 8880 7700 4700 4700 4700 4700 4700 6860 6860 6860 6860 6860 8880 7900 4680 6860 6860 8880 7900 4680 6860 8880 7900 4700 4800 6860 6860 8880 7900 6860 6860 8880 7900 6860 6860 6860 8880 7900 6860 6860 6860 8880 7900 6860 6860 6860 8880 7900 6860 6860 6860 6860 8880 7900 6860 6850	1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 2/01/85 2/01/85 1/31/85 1/29/85 1/28/85 2/01/85 1/29/85 1/29/85 1/28/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/28/85 2/01/85 1/29/85	92 	12.8 13.4 9.5 9.0 22.0 17.6 19.4 5.9 18.2 7.5 5.4 42.0 32.1 37.3 4.5 3.4 9.7 1.2 9.4 6.4 6.6 14.0 11.6 2.8 3.8 3.6 1.6 14.0 11.6 2.8 14.6 15.5 6.8 5.0 10.7 6.8 13.4 9.7 8.5	6.8 7.3 5.0 4.4 12.1 10.6 8.6 15.7 11.2 3.5 6.6 26.2 21.5 24.6 2.8 7.6 1.6 7.3 6.2 5.5 7.4 4.5 5.8 4.9 15.2 12.3 2.0 2.7 3.0 1.1 9 3.0 7.5 7.9 8.3 10.9 3.7 8.6	12.2 9.0 10.7 22.6 21.2 15.7 8.8 22.4 17.7 7.5 7.8 34.8 28.3 32.4 5.9 5.5 9.7 8.5 7.6 7.7 6.9 7.0 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 13.9 5.0 3.7 5.7 3.1 3.6 5.6 14.5 13.5 11.8 11.0 9.0 15.7 5.2 15.2 8.0 7.2 10.5	HUMBOLOT GULCH ISLAND PARK KILGORE LOLO PASS LOOKOUT MOOSE CREEK MOSQUITO RIOGE SAVAGE PASS SAMTELL MOUNTAIN SUNSET TARGHEE PASS VALLEY VIEW WHITE ELEPHANT WYOMING BALO MOUNTAIN SNOTE BEARTOOTH LK. SNOTE BURGESS JCT. SNOTEL CANYON CANYON SNOTEL EAST ENTRANCE EVENING STAR SNOTEL LAKE CAMF LUPINE CREEK NORRIS BASIN (OLO) NORTH TONGUE OLO FAITHFUL PARKERS PEAK SNOTEL SYLVAN PASS THUMB DIVIDE TOGHOTEE PASS	9380 6320 5240 5140 6200 5200 6170 8720 5540 6980 6680 7710 9380 L 9380 7880 7880 7880 7880 7880 7940 6960 9200 7780 7380 7500 8450 7400 9400 8420 7100 7980 9580 9160 8400 7650	1/30/85 2/01/85 1/29/85 2/01/85 1/30/85 1/31/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 2/01/85 1/30/85 2/01/85 1/30/85 2/01/85 1/30/85 1/31/85 2/01/85 1/31/85 2/01/85 1/31/85 2/01/85 1/31/85 2/01/85 1/31/85 1/31/85 2/01/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85 1/31/85	19 39 27 62 82 36 82 61 61 64 38 18 44 26 30 28 26 30 28 25	14.0 10.5 5.4 20.8 28.0 10.2 28.8 19.6 21.2 21.7 9.0E 10.0 15.6 10.1 11.5 11.8 4.3E 6.6 9.5 8.0 14.8 5.5 6.7 6.6 7.1E 10.2 11.9 13.9 8.6 14.3 14.3 14.3 14.3 15.5 16	6.6 9.7 8.5 14.1 15.0 11.2 13.8 22,0 13.2 7.8 8.6 10.1 10.8 4.3 5.7 7.2 7.2 5.2 16.4 3.6 4.8 5.7 7.2 7.2 5.2 16.4 3.6 4.9 13.5 6.2 9.6 13.5 6.2 9.6 13.5 14.6 15.6 16.0 16.0 16.0 16.0 16.0 16.0 16.0 16	11. 8. 21. 22. 25. 13. 23. 23. 10. 11. 16. 15. - - - - - - - - - - - - -

Columbia River Drainage

STREAMFLOW FORECASTS												
	THIS Y			RECORD	THIS TE		PAST	RECORD	THIS	YEAR	PAST	MECORG
BASIN STREAM and or FORECAST POINT	Thousans	Pertent of	"HOUSAND.		⊢O∘EC∧		THOUSAND	ACRE FEST	FORE	CAST	THOUSAND	ACRE FEET
	Acre Feel	Average	Lastro	Average	Thousand P Asie Feel (Percent of Average	Laurea	Average	Thousand Acre Fass	Percent of Asseage	Lnitea	4 .6.256
PERIOD	A	PRIL -	SEPTEMBER		F	APRIL -	- JULY			APRIL -	JUNE	
			e		_							
KODTENAI RIVER below Libby Oam (1)	6.640	9.4	5 • 466	7+041	5+680	94	4+520	6:020				
FISHER RIVER near Libby	285	108		264	270	109		218				
YAAK RIVER near Troy	485	93		523	460	92		500				
KOOTENAI RIVER at Leonia (1)	7+960	93	6,534	8,602	6.910	93	5.596	7 • 498	5:500	91	4.282	6+051
THELOW MOULTON RESERVOIR or Butte (Million Gallons).		0.0			230	87	182	263	210	89	179	237
HARM SPRINGS CREEK AT MEYERS DAM near Anaconda (2)	13.4	93		46.8	35.0	93		37.8				
FLINT CREEK near Southern Cross (3)	16.4	90	26.		13.8	0.0	21.					
FLINT CREEK below Boulder Creek (4)	67.5	89		75.8	53.5	90		59.5				
JNFLOW LOWER WILLOW CREEK RESERVOIR near Hall (5)	14.0	89	11.		13.2	88	10,					
MIDDLE FORK ROCK CREEK near Philipsburg	70.9	91		78.2	64.0	91		70.5				
NEVADA CREEK near Finn	19,8	86		23.0	18.4	86		21.3				
BLACKFOOT RIVER near Bonner	930	93		999	830	92		904	718	92		782
CLARK FORK RIVER above Milltown (6)	740	91		816	640	90		708	545	91		597
CLARK FORK RIVER above hissoula	1 • 670	92	1+565	1 - 815	1 - 470	91	1,360	1.612	1.263	92	880	1+379
WEST FORK BITTERROOT RIVER near Conner (7)	158	89		178	150	91		164				
BITTERROOT RIVER near Darby	512	88		580	475	89		532	119	90		464
SKALKAHD CREEK near Hamilton	68.8	87		56.0	42.5	87		48.7				
BURNT FORK CREEK near Stevensville (8)	32.5	87		37 . 4	28.4	88		32.2				
BITTERROOT PIVER at Missoula (9)	1 • 295	86		1.504	1 - 200	87		1 : 384	1,040	87		1.191
CLARK FORK RIVER below Missoula	2.970	90		3+319	2.670	90		2.996	2+303	90		2.570
CLARK FORK RIVER at St. Regis	4.010	91	3 • 7 32	4,411	3.620	91	3 • 32 2	3 - 9 28	3.120	91	2 - 825	3,428
NORTH FORK FLATHEAD RIVER near Columbia Falls	1.925	101		1.913	1.750	101		1:732	1 - 490	101		1,471
MIDDLE FORK FLATHEAD RIVER near West Glacker	1.850	99	1.316	1+869	1.710	100	1 • 236	1.713	1 - 4.25	98	1.086	1:453
SDUTH FORK FLATHEAD RIVER near Columbia Falls (10) .	2.280	100	1.515	2,278	2.150	100	1,694	2,142	1.870	99	1 + 416	1,886
FLATHEAD RIVER at Columbia Falls (10)	6-165	9.9	4.738	6:208	5.770	101	4 : 294	5.721	5,015	102	3.589	4,921
SMAN RIVER near Big Fork	710	103		689	625	103		604				
FLATHEAD RIVER near Polson (11)	7+370	191	5.586	7 • 278	6.865	102	5.102	6.712	5.834	101	4,284	5.759
CLARK FORK RIVER near Plains (11)	11.700	96	9,695	12.153	10.700	97	8,917	11:071	9 - 175	97	7 • 457	9.459
THOMPSON RIVER near Thompson Falls	275	105		261	250	107		233				
PROSPECT CREEK at Thompson Falls	155	109		132	145	110		132				
CLARK FORK RIVER at Whitehorse Rapids (12)	12.900	95		13.575	11.700	95		12,351	10.040	95		10.570

- (1) Adjusted for storage in Lake Koocanusa
 (2) Adjusted for storage in Silver Lake, diversions to and pumping from Georgetown Lake
 (3) Adjusted for storage in Georgetown Lake, diversions from and pumping to Silver Lake.
 (4) Sum Flint Creek at Maxwille and

- Boulder Creek at Maxville.

 (5) Sum of North Fork Lower Willow Creek
 near Hall and South Fork Lower Willow
 Creek near Hall.

 (6) Difference in observed flow Clark Fork above
 Missoula and Blackfoot near Bonner.
- (7) Adjusted for storage in Painted Rocks Reservoir.(8) Adjusted for diversion into Sunset Highline
- (9) Difference in observed flow Clark Fork above and
- below Missoula.
 (10) Adjusted for storage in Hungry Horse Reservoir.
 (11) Adjusted for storage in Hungry Horse Reservoir and
- Flathead Lake.
 (12) Adjusted for storage in Hungry Horse Reservoir,
 Flathead Lake and Noxon Rapids Reservoir

ALL FORECASTS PREPARED IN COOPERATION WITH THE NATIONAL WEATHER SERVICE

Columbia streamflow forecasts lowered

Streamflow forecasts have been lowered significantly due to lack of mountain precipitation in January.

Presently, predictions for spring and summer runoff are for near average flows on most streams and rivers in the northern part of the area and a little below average flows from southern drainages.

	Flow Period			
STREAM or AREA	Spring Season	Lare Season		
Tobacco	Avg	Avg		
Little 8itterroot	Avg	Avg		
Mission Valley	Avg	Avg		
Flint Creek	Avg	Fair		
Upper Clark Fork	Avg	Fair		
Nevada Creek	Avg	Fair		
81ackfoot	Avg	Avg		
West-side Bitterroot	Avg	Fair		
East-side 8itterroot	Avg	Fair		
Bitterroot River	Avg	Fair		
Lower Clark Fork	Avg	Avg		



SUMMARY of SNOW MEASUREMENTS THIS YEAR'S SHOW WATER AS PERCENT OF Late Year Average + East Kootenay/8C. 122 85 Kootenai/Montana 18 183 105 Kootenai above 151 96 Bonners Ferry .. Little 8itterroot 182 98 N. Fk. Flathead.. 100 152 M. Fk. Flathead.. 164 101 S. Fk. Flathead.. 135 112 Swan 108 117 Flathead 143 104 Stillwater & 93 Whitefish..... Clark Fork above 135 84 8lackfoot 8lackfoot 86 Upper Clark Fork 40 136 above Missoula . 85 Bitterroot 10 120 87 Lower Clark Fork below Missoula . 11 169 114 Clark Fork (Total w/o Flathead)... 144 96 Pend O'Reille (Clark Fork & 98 Flathead) 144 100 Columbia (Pend O'Reille & 146 99 Kootenai) 134

CANADA

Snowpack percentages drop in Columbia

Snowfall in January was very low Heavy snowpack areas that normally receive 6 to 8 inches of moisture generally picked up less than 2 inches. Snow surveyors reported that January 1 snowshoe tracks and snow sampling holes in the snow are still visible at some snow courses.

This very low precipitation for January has significantly dropped the snowpack percentages.

Areas that were well above average last month are now near average. Areas that were average are now below

At the present time, only a small area along the Montana-Idaho line from Lolo Pass to west of Libby has above average snowpack. Almost all of the Kootenai and Flathead River drainages and the northern part of the Blackfoot River have near average snow cover. Below average snowpack covers the Bitterroot, Upper Clark Fork and south half of the Blackfoot River drainages.



- Droinage Boundary Goging Station %1961-80 AVERAGE Over 130%

Under 70%



COLUMBIA RIVER DRAINAGE MONTANA MOUNTAIN SNOW WATER EQUIVALENT



Yellowstone River Drainage

STREAMFLOW FORECASTS		THIS YEAR PAST I			CORC	THIS YEAR		PAST RECORD	
		FORECAST		THOUSAND ACRE FEET		FORECAST		THOUSAND ACRE FEET	
BASIN, STREAM Ind/or FORECAST POINT		Thousand Acre Fess	Percent of Average	Lasi Year	Avriage	Thousand Acre Free	Percent of Average	L 011 7 8 00	Average
-	PERIOD		APRIL -	SEPTEMBER			APRIL	- JULY	_
YELLOWSTONE RIVER at Corwin Springs		1:860	92	1:997	2+027	1.530	91	1:622	1.686
YELLOWSTONE RIVER near Livingston		2+168	91		2,379	1.800	91		1,969
BOULDER RIVER at Big Timber		328	82		398	295	81		366
STILLWATER near Absarokee (1)		568	90		632	475	9.0		528
CLARKS FORK RIVER near Belfry	1 1	520	83		628	468	83		563
ROCK CREEK near Red Lodge		96.7	83		115	73.	2 83		88.1
INFLOW COONEY RESERVOIR near Boyd (2)		46.2	76		60.5	37.	0 75		49.5
YELLOWSTONE RIVER at Billings		4+150	93	4.262	4:516	3,610	94	3.594	3,833
BIGHORN RIVER near St. Xavier (3)		1:712	87	1.974	1 . 976	1.575	88	1:688	1,794
LITTLE BIGHORN RIVER near Hardin		161	88		182	143	88		162
TONGUE RIVER near Decker		225	84		269	204	84		244
YELLOHSTONE RIVER at Hiles City (4)		6:150	9.0		6,787	5+375	91		5,906
POWDER RIVER at Moorhead		223	85		263	209	86		243
YELLOWSTONE RIVER near Sidney (5)		6+673	80		7,518	5+825	89		6:514

- (1) Adjusted for storage in Mystic Lake.
 (2) Adjusted for storage in Cooney Reservoir.
 (3) Adjusted for storage in Buffalo Bill, Boysen, Bull Lake, Pilot Butte and Bighorn Reservoirs.
 (4) Adjusted for storage in Bull Lake, Buffalo Bill, Boysen, Pilot Butte, Bighorn and Tongue River Reservoirs.
 (5) Adjusted for reservoirs shown in (4) and diversions into the Lover Yellowstone Canal.

ALL FORECASTS PREPARED IN COOPERATION WITH THE NATIONAL WEATHER SERVICE

ANADA











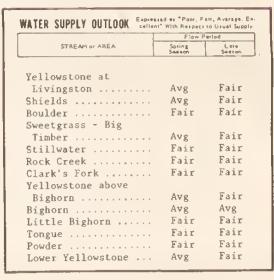
YELLOWSTONE RIVER DRAINAGE MONTANA

MOUNTAIN SNOW WATER EQUIVALENT

Yellowstone streams below average

Streamflow forecasts are lower now than they were on January 1, due to low January precipitation. Presently, most streams are predicted to have flows 10 to 15 percent below average.

Conditions in the Yellowstone River headwaters are a little better than on downstream tributaries.



Snowfall light in Yellowstone

January was not a good snowfall month. Snowfall was very light for most of the month with a little moisture coming near its end. Snow water content increases were in the 5- to 1-inch range for most locations.

This low snowfall dropped the current snowpack to below average in all but the headwater drainages in Yellowstone National Park. There, the snowpack is near to a little below average.

The area from West Rosebud, Red Lodge and Rock Creek across to the Clark's Fork in Montana and Wyoming has well below average snow. Extremely cold temperatures were recorded across the entire drainage near the end of January.

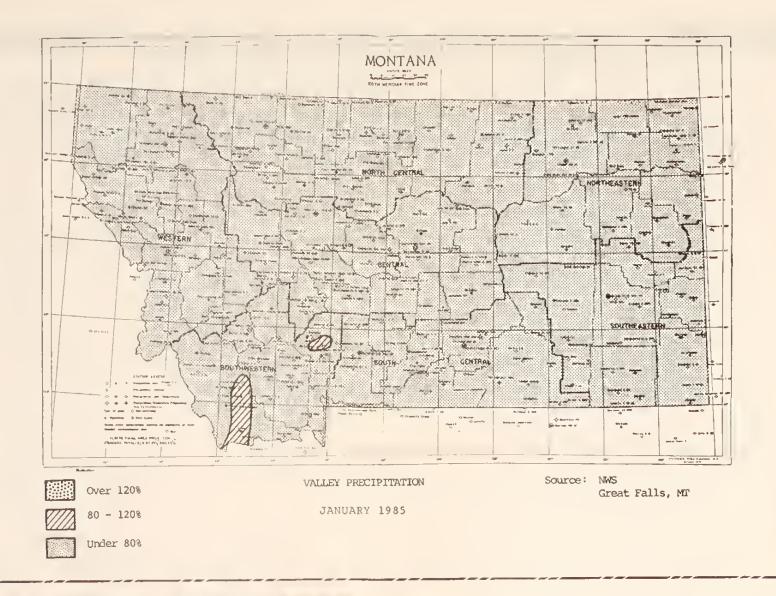
The weather patterns are presently unstable and only time will tell how this year's snow accumulation will stack up.



RIVER BASHN and/or	Humber of Courses	THIS YEAR'S SHOW WATER AS PERCENT OF			
SUB-WATERSHED	Avereged	Less Year	Averege		
Upper Yellowston					
ab Livingston .		108	80		
Shields	. 5	82	63		
Boulder &					
Stillwater	. 4	99	73		
Rock Creek &					
Clark's Fork	. 9	91	70		
Yellowstone (ab					
Bighorn River)	. 30	97	73		
Bighorn/Wyoming	. 29	81	71		
Little Bighorn .		88	74		
Tongue		94	83		
Powder		90	84		
Yellowstone	,				
(Total)	. 76	90	74		



Snowpack in the headwaters of the Clark's Fork River in the Yellowstone River drainage is about 70 percent of average.





This winter's snow accumulation is below average in many mountain areas.
AGENCIES AND ORGANIZATIONS COOPERATING IN MONTANA SNOW SURVEYS
GOVERNMENT AGENCIES
Canada
Department of the Environment Atmospheric Environment Service
Water Management Service
British Columbia Ministry of Environment
Inventory and Engineering Branch, Hydrology Section Alberta Environment
Technical Services Division
Federal Department of the Army - Corps of Engineers
Department of the Army - Corps of Engineers Department of Agriculture - Forest Service
- Soil Conservation Service
Department of Commerce - National Environmental Satellite Service - National Weather Service
Department of Interior - Bureau of Indian Affairs
- Fish and Wildlife Service
- Geological Survey - National Park Service
- Bureau of Reclamation
Department of Energy - Bonneville Power Administration
STATE AGENCIES
Montana Conservation Districts
Montana Department of Fish, Wildlife and Parks Montana Department of Natural Resources and Conservation
Montana State University - Agricultural Experiment Station
University of Montana - School of Forestry
PRIVATE ORGANIZATIONS
The Anaconda Company
Big Sky of Montana Butte Water Company
Flathead Valley Community College
Montana Power Company Pondera County Canal & Reservoir Company
Total Country Current of Reservoir Company

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

RESERVOIR STORAGE (Thousand Acre Feet) END OF MONTH January 31, 1985

RESERVOIR STORAGE	(Thousand Acre Feet) END OF MONTH	January :			
	RESERVOIR	Usable Capacity		Usable Storage	
Basin or Stream	RESERVOIR	Capacity	This Year	Last Year	Average
	COLUMB1A				
Kootenai	Koocanusa	5,748.2	2,113.0	3,619.0	2,406.0
Flathead	Hungry Horse	3,451.0	2,308.0	2,611.0	2,353.0
гтаспеао	Flathead Lake	1,791.0	835.3	875.0	1,179.0
	Camas (4)	45.2	17.0	29.0	11.1
	Mission Valley (8)	100.3	34.7	55.9	36.6
Clark Fork	Georgetown Lake	31.0	26.6	27.5	26.9
Clark Fork	Lower Willow Creek	4.9	0.3	3.3	1.4
	Nevada Creek	12.6	4.3	6.9	4.4
	Noxon Rapids	334.6	323.7	318.9	312.2
Bitterroot	Painted Rocks	31.7	323.7	8.7	16.5
Bitterroot	Como	34.9	7.9	10.8	10.5
	Como	34.7	, , ,		
	M1SSOURI				21.1
Beaverhead	Lima	84.0	25.9	51.4	34.4 138.7
	Clark Canyon	257.2	149.2	177.1	
Ruby	Ruby	38.8	24.1	27.0 262.1	23.3
Madison	Hebgen Lake	377.5	310.2	30.3	35.6
	Ennis Lake	41.0	31.0	30.3	3.3
Gallatin	Middle Creek	8.0	3.8	1,723.0	1,613.0
Missouri	Canyon Ferry	2,043.0	1,459.0	63.0	60.4
	Hauser & Helena	61.9	4.6	4.3	5.6
	Helena Valley	9.2	10.9	10.9	10.0
	Lake Helena	10.4 81.9	76.3	81.0	69.4
	Holter Lake		15,900.0	16,050.0	15,050.0
01	Fort Peck Lake	18,910.0	8.8	9.2	6.5
Smith	Smith River Newlan Creek	12.4	9.8	8.8	9.2
V 1 - 5 - 11	Newlan Creek 8air	7.0	0.4	2.9	4.3
Musselshell	Martinsdale	23.1	5.8	13.9	9.5
	Deadman's 8asin	72.2		56.5	43.2
Sun	Gibson	99.1	47.1	50.6	40.8
SHII	Willow Creek	32.2	12.6	24.3	20.4
	Pishkun	32.0	18.5	19.6	16.5
Marias	Lower Two Medicine	11.9			6.8
Harras	Four Horns	19.2			12.5
	Swift	30.0	7.9	11.9	14.1
	Lake Frances	111.9	23.8	47.2	70.0
Milk	Elwell (Tiber)	1,347.0	675.8	692.3	545.6
11	8eaver Creek	3.5	0.9	3.1	1.7
	Fresno	127.2	9.9	24.6	58.0
	Nelson	66.8	13.2	40.5	40.0
	HUDSON 8A	V			
St. Mary's	Lake Sherburne	64.3	35.2	37.3	19.5
Det Hoty o					
	YELLOWSTON			7.5	10.0
Stillwater	Mystic Lake	21.0	2.3	7.5	10.3
Clark's Fork	Cooney	27.4	18.8	16.5 14.7	30.2
Tongue	Tongue River	68.0	16.6	879.6	609.2
8ighorn	8ighorn Lake	1,356.0	907.4	0/9.0	009.2